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PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Marshall M. Moore )

Serial No.: 09/682,168 )

Examiner: Castellano, Stephen J.

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Art Unit: 3727

For: Foam Insulated Fuel Tank )

Faxed to Technology Center 3720 at (703) 872-9302  
Box Non-Fee Amendment  
Hon. Commissioner for Patents  
Washington, D.C. 20231

SUPPLEMENTAL EXHIBIT A

(37 C.F.R. § 1.121)

Dear Sir:

Pursuant to 37 C.F.R. § 1.121 amendments are marked up to show all changes relative to the previous version of the above-mentioned application on this separate document.

IN THE SPECIFICATION:

Please amend the specification as follows, in accordance with 37 C.F.R. 1.121(b)(1)(iii):

Paragraph [0009]:

United States Patent No. 3,787,279 to Winchester describes a fuel tank for military aircraft to minimize the damage caused by enemy gunfire. More particularly, the Winchester patent seeks to reduce pressure pulses caused by the penetration of 0.50 caliber and larger projectiles in liquid fuel tanks. Winchester does not disclose the use of [a Kevlar] DuPont KEVLAR, an aramid polymer fiber or [Mylar] DuPont MYLAR, a polyethylene terephthalate polymer film material, as a flame shield.

Paragraph [0010]:

United States Patent No. 5,087,513 to Kim describes a flame retardant composite which may be woven into fabrics such as [Kevlar] KEVLAR, polyester or nylon for use as the first

layer of a two layer composite. However, the Kim patent is chemical in nature and does not suggest application of its particular chemical composition to a fuel tank application.

Paragraph [0011]:

United States Patent No. 5,285,920 to McGarvey describes an above-ground fire resistant tank having a thermal barrier which may be injected with foam. However, McGarvey does not suggest the use of [Kevlar] KEVLAR or [Mylar] MYLAR but suggests a hydrate aluminum-iron magnesium silicate to be used in conjunction with Portland cement.

Paragraph [0014]:

United States Patent No. 5,924,134 to Taylor et al. describes a protective garment with a foam liner sandwiched by [Mylar] MYLAR layers to produce a fire-retardant composite. It should be noted that this patent is specifically directed to a garment and does not suggest the application of this barrier layer to above-ground fuel storage systems.

Paragraph [0018]:

The insulating foam material located in the interstitial area between the primary inner tank and the secondary outer tank can be polystyrene, urethanes, polymethyl methacrylate, or a variety of other polymers. For most embodiments and applications of the present invention, the foam material is preferably a synthetic polymer or rubber. The fire resistant textile material can be a high-temperature polyester film material such as [Mylar] MYLAR or [Kevlar] KEVLAR.

Paragraph [0032]:

FIG. 3 shows the double wall construction of the present invention in which the interstitial space 25 is filled with insulating material 40 and encased by the outer secondary tank wall 30 and the inner primary tank wall 20. In the preferred embodiment the insulating material 40 is a foam material comprised of synthetic polymer such as polystyrene, urethanes, or polymethyl methacrylate. Fire resistant textile material 50 that is sandwiched between the foam material and the outer secondary tank provides additional fire protection from leakage or penetration of the secondary tank 30. The fire resistant textile material 50 in the preferred

embodiment is a high-temperature polyester film material such as [Mylar] MYLAR or [Kevlar] KEVLAR.

IN THE CLAIMS:

Please amend Claim 1 as follows:

1. (amended) An aboveground storage tank for flammable and combustible liquids having secondary containment capability, comprising:
  - an inner primary tank for storing the liquid;
  - an outer secondary tank encasing said inner primary tank defining a substantially uniform interstitial [space] area therebetween;
  - an insulating foam material disposed of in the substantially uniform interstitial [space] area; and
  - a fire resistant [textile] polymer material sandwiches between the foam material and the outer secondary tank so that a fire resistant composite comprised of insulating foam and fire resistant [textile] polymer material encases the inner primary tank.
2. (amended) The storage tank of claim 1 in which the inner primary tank is [A-36] hot rolled carbon steel.
3. (amended) The storage tank of claim 1 in which the outer secondary tank is [A-36] hot rolled carbon steel.
4. (amended) The storage tank of claim 1 in wherein the fire resistant [textile] polymer material is [Mylar] a polyethylene terephthalate polymer film.
5. (amended) The storage tank of claim 1 wherein the fire resistant [textile] polymer material is [Kevlar] an aramid polymer fiber.
16. (amended) An aboveground storage tank for flammable and combustible liquids having secondary containment capability, comprising:

an inner primary tank for storing the liquid wherein the inner primary tank is [A-36] hot rolled carbon steel;

an outer secondary tank encasing the inner primary tank defining a substantially uniform interstitial [space] area therebetween wherein the secondary tank is [A-36] hot rolled carbon steel;

an insulating foam material disposed of in the substantially uniform interstitial [space] area wherein the foam material is a synthetic polymer;

a fire resistant [textile] polymer material sandwiches between the foam material and the outer secondary tank so that a fire resistant composite comprised of insulating foam and fire resistant [textile] polymer encases the primary tank wherein the fire resistant polymer is [Kevlar] an aramid polymer fiber;

an interstitial leak sensor for monitoring leakage of the inner primary tank;

a first venting means for venting the inner primary tank;

a second venting means for venting the interstitial [space] area containing the fire resistant composite; and

a support means to form a base for a generator apparatus so that the generator apparatus is supported by the top surface of the fuel storage tank thereby reducing the space required for the generator apparatus.

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**CERTIFICATE OF FACSIMILE TRANSMISSION**

(37 C.F.R. 1.8 (a))

I HEREBY CERTIFY that this Supplemental Exhibit A is being transmitted by facsimile to the United States Patent and Trademark Office, Art Unit 3727, Attn: Stephen J. Castellano, (703) 872-9302 on April 15, 2002.

Dated: April 15, 2002

  
Deborah Preza